

58307.US

**IN THE CLAIMS**

1. (previously presented) A method of tuning an inspection system, the method comprising the steps of:
  - a. sensing characteristics of an inspection piece using the inspection system,
  - b. analyzing the sensed characteristics to identify anomalies having location information and level information,
  - c. analyzing the level information of the anomalies with an initial set of thresholds of inspection system parameters,
  - d. flagging as defects an initial portion of the anomalies based on the analysis of the level information in step c,
  - e. displaying a summary of the flagged anomalies,
  - f. selectively changing at least one of the inspection system parameters to form a modified set of thresholds of the inspection system parameters,
  - g. analyzing the level information of the anomalies with the modified set of thresholds of the inspection system parameters,
  - h. flagging as defects an updated portion of the anomalies based on the analysis of the level information in step g,
  - i. displaying a summary of the flagged anomalies,
  - j. selectively repeating steps f through i, and
  - k. storing the modified set of thresholds of the inspection system parameters for use in an inspection system recipe.
2. (original) The method of claim 1, wherein the inspection system is an optical inspection system.
3. (original) The method of claim 1, wherein the inspection piece is a semiconducting wafer.
4. (original) The method of claim 1, wherein the characteristics of the inspection piece are surface defects.

58307.US

5. (original) The method of claim 1, further comprising the step of selectively displaying a spatial representation of the flagged anomalies on the inspection piece.
6. (previously presented) A method of tuning a recipe for an inspection system, the method comprising the steps of:
  - a. receiving level information for sensed anomalies,
  - b. analyzing the level information of the anomalies with an initial set of thresholds of inspection system parameters,
  - c. flagging as defects an initial portion of the anomalies based on the analysis of the level information in step b,
  - d. displaying a summary of the flagged anomalies,
  - e. selectively changing at least one of the inspection system parameters to form a modified set of thresholds of the inspection system parameters,
  - f. analyzing the level information of the anomalies with the modified set of thresholds of the inspection system parameters,
  - 10 g. flagging as defects an updated portion of the anomalies based on the analysis of the level information in step f,
  - 15 h. displaying a summary of the flagged anomalies,
  - i. selectively repeating steps e through h, and
  - j. storing the modified set of thresholds of the inspection system parameters for use in an inspection system recipe.
7. (original) The method of claim 6, wherein the anomalies represent surface defects on an inspection piece.
8. (original) The method of claim 6, further comprising the step of selectively displaying a spatial representation of the flagged anomalies.
9. (previously presented) An inspection system comprising:  
sensors adapted to sense characteristics of an inspection piece,  
a processor adapted to:

58307.US

analyze the sensed characteristics to identify anomalies having location  
5 information and level information,  
analyze the level information of the anomalies with an initial set of  
thresholds of inspection system parameters, and  
flag as defects an initial portion of the anomalies based on the analysis of  
the level information,

10 a display adapted to:  
display a summary of the flagged anomalies,  
an input adapted to selectively change at least one of the inspection system  
parameters to form a modified set of thresholds of the inspection system  
parameters,

15 the processor further adapted to:  
analyze the level information of the anomalies with the modified set of  
thresholds of the inspection system parameters, and  
flag as defects an updated portion of the anomalies based on the  
immediately preceding analysis of the level information,

20 the display further adapted to display an updated summary of the flagged  
anomalies, and  
a memory adapted to store the modified set of thresholds of the inspection system  
parameters for use in an inspection system recipe.

10. (original) The inspection system of claim 9, wherein the inspection system is an optical inspection system.

11. (original) The inspection system of claim 9, wherein the inspection piece is a semiconducting wafer.

12. (original) The inspection system of claim 9, wherein the characteristics of the inspection piece are surface defects.

13. (original) The inspection system of claim 9, wherein the display is further adapted to selectively display a spatial representation of the flagged anomalies on the inspection piece.

58307.US

14. (previously presented) The method of claim 1, further comprising the step of displaying an operating curve of potential flagged defects versus threshold for at least one of the inspection system parameters, performed between steps e and f, and additionally displaying recomputed operating curves in step i.
15. (previously presented) The method of claim 1, wherein the inspection system senses the characteristics of the inspection piece as image frames, and the steps of the method are repeated for each image frame of the inspection piece that is sensed by the inspection system.
16. (previously presented) The method of claim 6, further comprising the step of displaying an operating curve of potential flagged defects versus threshold for at least one of the inspection system parameters, performed between steps d and e, and additionally displaying recomputed operating curves in step h.
17. (previously presented) The method of claim 6, wherein the level information is received as image frames of an inspection piece, and the steps of the method are repeated for each image frame received.
18. (previously presented) The inspection system of claim 9, wherein the display is further adapted to display an operating curve of potential flagged defects versus threshold for at least one of the inspection system parameters, and recomputed operating curves.
19. (previously presented) The inspection system of claim 9, wherein the sensors produce image frames of the inspection piece, and the inspection system processes each image frame of the inspection piece.